



UNIVERSITI PUTRA MALAYSIA

**THE HEALTH STATUS OF ELECTRONICS WOMEN WORKERS IN
RELATION TO THEIR LIFESTYLE**

LIM HWEI MIAN

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RELATION TO THEIR LIFESTYLE**

By

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**Thesis submitted in Fulfilment of the Requirements for the Degree of Master of
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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirements for the degree of Master of Science.

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October 2000

Chairman: Associate Professor Chee Heng Leng, Ph.D.

Faculty: Medicine and Health Sciences

This study aims to examine the lifestyle factors that affect the women workers' health status. Women from selected factories who were Malaysians, production workers aged 17 and above, and had worked for at least one year in their current factory were invited to participate in the study on a voluntary basis. The final number of respondents was 484 women.

The data was collected using a pre-coded questionnaire. Anthropometric measurements (weight and height) were obtained to calculate body mass index (BMI). Further study was conducted among a sub-sample of women (33) to obtain

in-depth information on nutrition and physical activity. The research design for both the main and sub-sample studies is the questionnaire-based survey.

Results show that the major acute health problems experiences are stomach-ache, influenza, back pain, flatulence, sore throat, cough/phlegm, and feeling tired without reasons, while the major chronic health problems are persistent headache, eye strain/problem, menstruation/menopause problem, persistent back pain, and persistent constipation. Physical health status, as measured by BMI, is generally satisfactory, with 58.0% of the women within the normal range. However, women who are overweight or obese make up 26.7%, and those who are underweight make up 15.3%. Mental health, as measured by the DASS 21, shows that most of the women have normal to moderate levels of depression, anxiety, and stress. However, a substantial number are suffering from severe, or extremely severe depression (5.2%), anxiety (24.4%), and stress (5.9%).

Lifestyle factors that are found to be significantly related to the women's mental health are emotional support from their friend/others; household management, financial, and emotional support from their spouses (social support); number of persons in a room (living arrangement); "heavy workload," "financial burden," and "lack of resting time" (sources of stress); and maladaptive coping strategies (coping strategy). Lifestyle factors such as physical activity (active,

moderate, and sedentary), and diet are not significantly related to the women's nutritional status (BMI).

This study concludes that the problems of overweight and obesity, along with severe and extremely severe depression, anxiety, and stress are seen among a substantial number of women in this study. Their lifestyle factors are found to contribute to their poor health status.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains.

**TAHAP KESIHATAN PEKERJA ELEKTRONIK WANITA DAN
PERKAITANNYA DENGAN CARA GAYA HIDUP MEREKA**

Oleh

LIM HWEI MIAN

Oktober 2000

Pengerusi: Profesor Madya Chee Heng Leng, Ph.D.

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Tujuan kajian ini adalah untuk menyelidik faktor cara gaya hidup yang mempengaruhi status kesihatan pekerja wanita. Wanita dari kilang yang terpilih yang adalah warganegara Malaysia, operator pengeluaran yang berumur 17 tahun dan ke atas, dan telah bekerja sekurang-kurangnya satu tahun di kilang tersebut dipelawa untuk menyertai kajian ini secara sukarela. Jumlah reponden adalah 484 orang.

Data dikutip dengan menggunakan borang soal selidik. Ukuran antropometri (berat dan ketinggian) diambil untuk mengira indeks jisim tubuh (IJT). Kajian terperinci turut dilakukan di kalangan sub-sampel wanita (33) untuk mendapatkan

maklumat tentang pemakanan dan aktiviti fizikal. Rekabentuk penyelidikan untuk kajian utama dan sub-sampel ini adalah survei menggunakan borang soal selidik.

Keputusan menunjukkan bahawa masalah kesihatan akut utama yang dialami wanita ini adalah sakit perut, selsema, sakit belakang, angin, sakit kerongkong, batuk/kahak, dan merasa penat tanpa sebab, manakala masalah kesihatan kronik utama yang dialami adalah sakit kepala yang berulang, sakit/masalah mata, masalah berkaitan haid/menopaus, sakit belakang yang berulang, dan sembelit yang berulang. Kesihatan fizikal wanita ini, yang diukur melalui BMI, adalah memuaskan, di mana 58.0% dari mereka berada dalam kategori normal. Namun demikian, seramai 26.7% adalah tergolong dalam kategori berlebihan berat atau obes, dan 15.3% adalah tergolong dalam kategori kekurangan berat. Kesihatan mental, yang diukur melalui DASS 21, menunjukkan sebahagian besar wanita ini mempunyai paras depresi, keresahan (*anxiety*), and tekanan dalam kategori normal hingga sederhana. Walaubagaimanapun, terdapat sebilangan yang mempunyai paras depresi (5.2%), keresahan (*anxiety*) (24.4%), dan tekanan (5.9%) yang tinggi dan sangat tinggi.

Faktor-faktor cara gaya hidup yang didapati mempunyai perkaitan signifikan dengan kesihatan mental wanita ini adalah sokongan emosi dari kawan/orang lain, sokongan mengurus rumahtangga, kewangan dan emosi dari suami (sokongan); bilangan orang di dalam sebuah bilik (keadaan tempat tinggal); “beban kerja,”

“beban kewangan,” dan “kurang masa rehat” (sumber tekanan); dan cara menangani tekanan secara negatif (cara menangani tekanan). Faktor-faktor cara gaya hidup seperti aktiviti fizikal (aktif, sederhana, dan tidak aktif), dan pemakanan didapati tidak mempunyai perkaitan signifikan dengan status pemakanan (LJT) wanita ini.

Kesimpulan kajian ini adalah masalah lebih berat badan dan obes, serta paras depresi, keresahan (*anxiety*), dan tekanan yang tinggi, dan sangat tinggi dikenalpasti di sebahagian dari wanita dalam kajian ini. Status kesihatan mental mereka yang kurang memuaskan didapati ada perkaitannya dengan cara gaya hidup mereka.

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I certify that an Examination Committee met on 20 October, 2000 to conduct the final examination of Lim Hwei Mian on her Master of Science thesis entitled "The Health Status of Electronics Women Workers in Relation to Their Lifestyle" in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

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DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledge. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.


(LIM HWEI MIAN)

Date: 6/11/2000

TABLE OF CONTENTS

	Page
ABSTRACT	ii
ABSTRAK	v
ACKNOWLEDGEMENTS	viii
APPROVAL SHEET	x
DECLARATION FORM	xii
LIST OF TABLES	xvi
LIST OF FIGURES	xx
LIST OF ABBREVIATIONS	xxi
 CHAPTER	
1 INTRODUCTION	1
Health and Lifestyle	1
Health and Lifestyle in the Context of Malaysia	3
Economic Growth in Malaysia	7
Electronics and Electrical Industry in Malaysia	8
The Electronics Industry in Malaysia	9
Electronics Women Workers in Malaysia	11
Statement of Problem	18
Objective	23
General Objective	23
Specific Objectives	24
Null Hypotheses	25
Importance of Study	25
 2 LITERATURE REVIEW	27
Health and Lifestyle	27
Health Status of Electronics Women Workers	28
Self-perceived Health	40
Intermediate Factors Affecting Women's Health	43
Social Support	43
Living Arrangement	46
Attitudes towards Work	50
Sources of Stress	55
Lifestyle Factors Affecting the Health of Women	62
Stress Coping Strategy	62
Leisure Time	66
Exercise	68
Physical Activity	71
Diet	72



3	METHOD	74
	Research Design	74
	Location of Study	74
	Selecting Factories	75
	Sampling of Factories	75
	Selecting Respondents	76
	Sampling of Respondents	76
	Data Collection	77
	Questionnaire	77
	Anthropometric Measurements	78
	Mental Health Assessment	79
	Sub-sample Study	80
	Data Collection for Sub-sample Study	81
	Data Analysis	82
	Limitations of Study	84
4	RESULTS AND DISCUSSION	86
	Background	86
	Characteristics of the Women Workers	89
	Demographic Characteristics	89
	Socioeconomic Characteristics	91
	Job Characteristics	93
	Health Status	96
	Self-perceived Health	96
	Self-perceived Morbidity	96
	Body Mass Index	100
	Mental Health Status	101
	Intermediate Factors Affecting the Women Workers' Health	103
	Social Support	103
	Living Arrangement	106
	Attitudes towards Working Conditions	108
	Sources of Stress	110
	Lifestyle Factors Affecting the Women Workers' Health	112
	Stress Coping Strategy	112
	Leisure Time	115
	Exercise	117
	Sub-sample Study	119
	Demographic and Socioeconomic Characteristics	119

Health Status of Women Workers in the Sub-sample Study	121
Self-perceived Health	121
Self-perceived Morbidity	122
Body Mass Index and Waist Hip Ratio	126
Mental Health Status	127
Physical Activity	128
Active Physical Activity	128
Moderate Physical Activity	131
Sedentary Physical Activity	134
Diet	136
Food Intake	136
Supplement Intake	150
Relationship between Intermediate Factors and the Women's Health Status	153
Health Status and Social Support	153
Health Status and Living Arrangement	157
Health Status and Sources of Stress	158
Relationship between Lifestyle and the Women's Health Status	162
Health Status and Stress Coping Strategy	162
Nutritional Status and Physical Activity	165
Nutritional Status and Diet	168
Summary	170
 5 CONCLUSION	171
Summary	171
Recommendations	182
 BIBLIOGRAPHY	186
 APPENDIX	
A Main Questionnaire: Section I	199
B Main Questionnaire: Section II	208
C Health Check Slip	217
D Sub-sample Study Questionnaire	218
E Diagram of Foods	226
 VITA	238

LIST OF TABLES

	Page
Table 1 Major causes of deaths in government hospitals in Malaysia, 1996	5
Table 2 Total employment in the electronics industry: 1970-1997	10
Table 3 Job characteristics and working condition of women electronics workers in Malaysia	14
Table 4 Average starting salary of male and female production workers in the electronics and electrical industry in 1992	15
Table 5 Adaptive and maladaptive coping strategies	63
Table 6 Classification of body mass index	79
Table 7 DASS severity ratings for depression, anxiety, and stress	80
Table 8 Test of relationship for intermediate factors	83
Table 9 Test of relationship for lifestyle factors	83
Table 10 Guildford's rule of thumb	83
Table 11 Profile of the factories	87
Table 12 Profile of the hostels	88
Table 13 Number of household occupants and rental payment ..	88
Table 14 Demographic profile of the women workers	90
Table 15 Socioeconomic profile of the women workers	92
Table 16 Job characteristics of the women workers	94

Table 17	Self-rated health of the women workers within this one year	96
Table 18	Health problems experienced by the women workers .	97
Table 19	Acute health problems experienced by the women workers within the last two weeks	98
Table 20	Chronic health problems experienced by the women workers	99
Table 21	Body mass index (BMI) of the women workers	100
Table 22	Categorization of mental health of the women workers	102
Table 23	Social support received by the women workers	105
Table 24	Living arrangement of the women workers	107
Table 25	Attitudes towards working conditions	109
Table 26	Sources of stress among the women workers	111
Table 27	Stress coping strategy used by the women workers	114
Table 28	Activities during leisure time	116
Table 29	Exercise level of the women workers	117
Table 30	Demographic and socioeconomic profile of the women workers in the sub-sample study	120
Table 31	Comparison between the general profile of women in the main and sub-sample studies	121
Table 32	Self-rated health of women workers in the sub-sample study within this one year	122
Table 33	Health problems experienced by women workers in the sub-sample study	123

Table 34	Acute health problems experienced within the last two weeks by women workers in the sub-sample study	124
Table 35	Chronic health problems experienced by women workers in the sub-sample study	125
Table 36	Body mass index (BMI) of women workers in the sub-sample study	126
Table 37	Categorization of mental health of the women workers in the sub-sample study	128
Table 38	Exercise habit of women workers in the sub-sample study	129
Table 39	Active physical activities	130
Table 40	Active physical activities: frequency per week	130
Table 41	Moderate physical activities	132
Table 42	Moderate physical activities: frequency per week	133
Table 43	Sedentary physical activities	135
Table 44	Sedentary physical activities: frequency per week	135
Table 45	Usual mean amount of intake: cereals & grain products	136
Table 46	Usual mean amount of intake: vegetables	140
Table 47	Usual mean amount of intake: meat & meat products	142
Table 48	Usual mean amount of intake: fish, shellfish, and products	144
Table 49	Usual mean amount of intake: fruits	146
Table 50	Usual mean amount of intake: cooked foods that are bought	148

Table 51	Supplement intake	151
Table 52	Correlation (Spearman's rho) between social support and the women workers' self-perceived morbidity	154
Table 53	Correlation (Spearman's rho) between social support and mental health status of the women workers	156
Table 54	Correlation (Spearman's rho) between the number of persons in a room and health status of the women workers	157
Table 55	Correlation (Spearman's rho) between sources of stress and the women workers' self-perceived morbidity	159
Table 56	Correlation (Spearman's rho) between sources of stress and mental health status of the women workers	161
Table 57	Correlation (Spearman's rho) between stress coping strategy and mental health status of the women workers	163
Table 58	Correlation (Spearman's rho) between active physical activities and nutritional status of the women workers in the sub-sample study	166
Table 59	Correlation (Spearman's rho) between moderate physical activities and nutritional status of the women workers in the sub-sample study	166
Table 60	Correlation (Spearman's rho) between sedentary physical activities and nutritional status of the women workers in the sub-sample study	167
Table 61	Correlation (Spearman's rho) between diet and nutritional status of the women workers in the sub-sample study	169

LIST OF FIGURES

	Page
Figure 1 Framework for health status of electronics women workers in relation to lifestyle	19
Figure 2 Percentage distribution of food intake: cereals & grain products	137
Figure 3 Percentage distribution of food intake: vegetables	139
Figure 4 Percentage distribution of food intake: meat & meat products	141
Figure 5 Percentage distribution of food intake: fish, shellfish, & products	143
Figure 6 Percentage distribution of food intake: fruits	145
Figure 7 Percentage distribution of food intake: cooked foods that are bought	147

LIST OF ABBREVIATIONS

ADA	: Appreciated depreciation allowances
BMI	: Body mass index
CED	: Chronic energy deficiency
CNS	: Central nervous system
CTDs	: Cumulative trauma disorders
DASS	: Depression Anxiety Stress Scales
EIWU	: Electrical & Electronics Industry Workers Union
ETCH	: Etching
FFQ	: Food frequency questionnaire
FTZs	: Free Trade Zones
FURN	: Furnace
GNP	: Gross national product
IMP	: Industrial Master Plan
IMP2	: Second Industrial Master Plan
IRPA	: Intensification of Research in Priority Areas
LB	: Location benefit
LMWs	: Licensed manufacturing warehouses
LUB	: Labour utilization benefit
MAA	: Malaysian Medical Association
MAINT	: Maintenance

MIDA	: Malaysian Industrial Development Authority
MITI	: Ministry of International Trade & Industry
MOF	: Ministry of Finance
MOH	: Ministry of Health
MNCs	: Multinational companies
NEP	: New Economic Policy
NGOs	: Non-governmental organizations
NHMS2	: National Health and Morbidity Survey 2
OR	: Odds ratio
PHOTO	: Photolithography
PKNS	: Selangor State Development Corporation
QC	: Quality control
RDA	: Recommended dietary allowances
RR	: Relative risk
TFII	: Thin film & iron implantation
US	: United States
WHO	: World Health Organization
WHR	: Waist hip ratio

CHAPTER I

INTRODUCTION

Health and Lifestyle

Health is a word that originates from the Old Middle English word 'hal', which means "freedom from disease, pain, or defect." Its synonyms are 'sound', meaning "not weak, diseased, or impaired" and 'whole', which denotes "not diseased or injured", according to the Webster's New World Dictionary (1994).

Nevertheless, there is a body of literature that conceptualizes health as being more than the absence of disease and illness. For example, it has been described as "the ability of the individual to function in a manner acceptable to himself and to the group of which he is a part" (Dubos, 1979). The World Health Organization's (WHO) (1978) definition of health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" is in line with this positive way of conceptualizing health. Another definition may be found in the Stedman's Concise Medical and Allied Health Dictionary (1997), which describes it as "a state characterized by anatomical, physiological, and psychological integrity, ability to perform personally valued family, work, and community roles; ability to

deal with physical, biological, psychological and social stress; a feeling of well-being; and freedom from the risk of disease and untimely death.”

From this conceptualization of health it may be argued that an individual's health is influenced by the external factors of the person, as well as the internal workings of the person's body. Much of the external factors around a person is embodied in his or her lifestyle. The concept of lifestyle is described by the Stedman's Concise Medical and Allied Health Dictionary as (1997):

Habits and customs influenced by the lifelong process of socialization, including social use of alcohol, dietary habit, and exercise, all of which have important implications for health.

Evidence from epidemiological and nutritional studies have shown that dietary habits have a linkage to illness and disease. For example, the level of saturated fat intake is related to a person's risk of having coronary heart disease and certain types of cancers. Furthermore, regular exercise, another lifestyle habit, is considered to be the best for maintaining health and well-being (Last, 1998).

However, Blaxter (1995) argues that this is not a holistic view on lifestyle, because it merely touches on 'voluntary lifestyles,' meaning personal choices regarding behaviour and consumption patterns. This way of conceptualizing lifestyle assumes that individuals are wholly responsible for their own behaviour in maintaining their health. Lifestyle topics in relation to health have most often dwelt on a person's eating, smoking and drinking behaviour and habits, including how they spend their free time. This, according to Blaxter, is a very narrow outlook on